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Give Growth and Macroeconomic Stability in Russia a Chance

Harden Budgets by Eliminating Nonpayments

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In Russia, implicit subsidies amounting to 10 percent of GDP per year in the form of nonpayments have stifled growth, contributed to the August 1998 macroeconomic crisis through their impact on public debt, and made at best a questionable contribution to equity. Hardening budgets requires that these nonpayments — or mutual arrears and noncash settlements among the government, the energy monopolies, and manufacturing firms — be eliminated with energy bills, taxes and budgetary spending settled on time and in cash.

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Summary findings

Pinto, Drebentsov, and Morozov analyze the links between Russia's disappointing growth performance in the second half of the 1990s, its costly and unsuccessful stabilization, the macroeconomic meltdown of 1998, and the spectacular rise of nonpayments.

Nonpayments flourished in an environment of fundamental inconsistency between a macroeconomic policy geared at sharp disinflation and a microeconomic policy of bailing enterprises out through soft budget constraints.

Heavy untargeted implicit subsidies flowing through the nonpayments system (amounting to 10 percent of GDP annually) have stifled growth, contributed to the August 1998 meltdown through their impact on public debt, and have made at best a questionable contribution to equity.

Dismantling this system must be a top priority, along with promoting enterprise restructuring and growth (by hardening budget constraints) and medium-term macroeconomic stability (by reducing the size of subsidies).

Getting the government out of the nonpayments system means settling all appropriately controlled budgetary expenditures on time and in cash, and eschewing spending arrears, thereby setting an example for enterprises and laying the groundwork for eliminating tax offsets at all levels of government, and insisting on cash tax payments.

To stop energy-related subsidies would require not only that the government pay its own energy bills on time and in cash, but also that the energy monopolies be empowered to disconnect nonpaying clients. This will enable the government to insist that the energy monopolies in turn pay their own taxes in full and on time.

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Give Growth and Macro Stability in Russia A Chance: Harden Budgets by Dismantling Nonpayments

by

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Introduction

Russia's transition after 1995 was marked by three main features: elusive growth; a spectacular rise in noncash settlements and arrears ("nonpayments"); and a massive macroeconomic meltdown in August 1998. The meltdown reversed what many regarded as one of the singular achievements of the 1990s: stabilization. Twelve-month inflation fell rapidly over the three years preceding the meltdown, attaining single-digit levels between February and August 1998, before shooting back up to 84 percent by December. In spite of gloomy prognostications on both recession and policy reversal, economic performance has been surprisingly strong following the large devaluation associated with the meltdown, which coincided with rising oil prices. In contrast to initial forecasts for 1999, which anticipated a *decline* of 7-10 percent, Russia has ended up with *positive growth* estimated at 3.2 percent. Further, survey evidence shows a sharp drop in the use of noncash settlements by enterprises.

This paper develops conceptual and empirical links among the elusive growth of the 1990s, the temporary nature of the stabilization, the rise of nonpayments and the meltdown. It thereby contributes to a better understanding of how the Russian economy works, a pre-condition for any debate on whether Russia is following the "right" strategy. This debate has been fueled not just by the meltdown -- which was manifested in a sharp devaluation and a comprehensive fiscal-BOP-debt-banking crisis -- but also by the virtual absence of serious enterprise restructuring and solid corporate governance in the aftermath of Russia's privatization program.[1] We do not get into the undoubtedly important privatization issue. Instead, we focus on a complementary set of issues, highlighting the macroeconomic environment created by the government's drive to conquer inflation at seemingly any cost, coupled with the simultaneous maintenance of microeconomic soft budget constraints for enterprises, as crucial in defining the response of managers – be they in state-owned or private firms - to the transition. This inconsistent macro-micro policy mix, namely, rapid disinflation without hard budget constraints for enterprises, gave a huge boost to nonpayments and public debt while hurting stabilization and the credibility of Russia's transition strategy.

Our findings suggest that Russia does not need a fundamentally different paradigm from that followed in Central Europe; and further, that nonpayments has very much been the product of piecemeal, gradual reform. Dismantling nonpayments, for which the present time is particularly appropriate, will do two things: first, establish a stable foundation for the resumption of growth; and second, by signaling the credible implementation of reform, dramatically improve the investment climate and unlock potential resources ranging from latent foreign direct investment to the possible

[1] On the meltdown, see Slay (1999), and Kharas, Pinto and Ulatov (2000). On privatization, see, for example, Black, Kraakman and Tarassova (1999).

reversal of flight capital. Once this process is launched, it will facilitate the more medium run tasks of institutional building, much the same as in Poland.[2]

Definitions

We define nonpayments to include: (i) arrears, or overdue accounts payable, as well as (ii) all forms of noncash settlement (NCS), including barter, the use of "veksels" (promissory notes), and tax offsets whereby government spending arrears and overdue tax payments are mutually canceled. While arrears, or the failure to pay, constitute nonpayment in the strict sense, the use of NCS is not strictly nonpayment, only the use of a payment instrument other than cash rubles or bank transfers. However, as will be seen below, the use of NCS has subsidies built into it for energy and tax payments. Thus, while arrears mark a complete failure to pay, NCS is a partial failure to pay (or "underpay"). The two are lumped together to capture the notion of a subsidy under "nonpayments".

The nonpayments system has two parts: (i) a large volume of rapidly growing arrears, estimated at close to 40 percent of GDP at end-1998 compared to 15 percent at end-1994; and (ii) growing use of non-monetary exchange, with economic transactions increasingly settled by NCS. By the summer preceding the meltdown, cash collections by the infrastructure monopolies were as low as 12-13 percent on domestic sales for Gazprom (gas monopoly) and RAO UES (electricity monopoly), and about 30 percent for the railways. By 1998, the share of noncash settlements in enterprise sales had increased to 50-70 percent. Over the 1995 – mid 1998 disinflation, as much as 50 percent of spending by subnational governments was in noncash form, while money surrogates and offsets averaged over 20 percent for federal government non-interest spending. [3]

Table 1 presents data on the time evolution of nonpayments over 1994-98.

Table 1: Nonpayments – 1994 to 1998

		1994	1995	1996	1997	1998
ARREARS [a/]	billion rubles	90.4	238.9	514.4	756.1	1056.4
	percent of GDP	*14.8*	*15.1*	*23.4*	*29.2*	*39.3*
Of which:						
To suppliers	billion rubles	56.4	122.3	245.9	344.7	475.1
	percent of GDP	*9.2*	*7.7*	*11.2*	*13.3*	*17.7*
To the budget and EBFs [c/]	bln rubles	19.3	75.0	203.4	316.6	439.0
	percent of GDP	*3.2*	*4.7*	*9.2*	*12.2*	*16.4*
Wage arrears	billion rubles	4.7	13.6	34.7	39.7	77.0
	percent of GDP	*0.8*	*0.9*	*1.6*	*1.5*	*2.9*
NCS / SALES [b/]	percent	17	22	35	42	50

[a/] end of period overdue payables for 4 sectors: industry, agriculture, transport and construction.
[b/] Russian Economic Barometer. See also Aukutsionek (1998).
[c/] excludes penalty interest and fines.

[2] For an alternative, incremental approach, see Stiglitz and Ellerman (1999).
[3] The term "enlarged government" is used to denote collectively the federal government (or center), the regional (or oblast) governments, the local (or raion or municipal) governments and the four primary social EBFs: the Pension Fund, the Social Insurance Fund, the Employment Fund and the Medical Insurance Fund. Budgets are correspondingly defined.

The paper is organized as follows: the next section sets out a heuristic, analytical framework.[4] This is followed by a discussion of macroeconomic policy and its impact on nonpayments, an estimation of the sum of explicit and implicit subsidies to enterprises, the role of the energy monopolies in this process and a discussion of why enterprises resorted to noncash settlements on such a large scale. The final section concludes, identifying a minimum set of reforms to dismantle nonpayments.

Analytical Framework

Subsidies to Manufacturing Enterprises

Nonpayments masks a system of large, implicit, untargeted subsidies to companies, diluting incentives to restructure. The subsidies have been financed by a combination of transfers from the energy monopolies and the accumulation of public debt. Why does the government tolerate nonpayments year-after-year? The answer is that this is part and parcel of its strategy to keep unviable enterprises afloat, as will be discussed below.

The idea that the energy sector cross-subsidizes manufacturing is an integral part of the virtual economy story of Gaddy and Ickes (1998 - GI). Essentially, GI argue that noncash settlements (NCS) by the manufacturing sector for both taxes and energy conceal subsidies while also masking negative value added in manufacturing. This occurs because NCS prices of manufactured goods are inflated above their true market price cash equivalents. While this pretense prevents, or minimizes, inter-enterprise and tax arrears, it leads to wage and budgetary (pension) arrears as wages and pensions must be paid in cash, and cash equivalents are low because manufacturing companies subtract value. This imposes a cash constraint on them: they can pay either wages or taxes in cash, but not both. A drive to increase cash taxes would worsen the wage arrears and vice versa. GI argue that everyone accepts the pretense of positive value added in manufacturing "because they can use the overpriced output in barter with one another or to pay their own taxes".

However, this assertion begs three questions. First, while the pretense may work well in a one-shot game, it would be untenable in a repeated game. Can the manufacturing sector really trick Gazprom, its workers and the government year-after-year? This concern is reinforced by noting that in the GI virtual economy, only the manufacturing sector gains. Every one else loses: workers; pensioners; government; and Gazprom. So do future generations, because of the waste of economic resources and the postponement of growth *plus* a higher debt burden, as the 1998 meltdown

[4] In other words, it does not contain any closed-form analytical solutions.

demonstrated. Third, there is no explanation for why the subsidies should assume a noncash form. Why not use standard channels of directed credits, for example?

We extend the GI framework by incorporating the strategy employed by energy monopolies to also gain from the nonpayments system. We demonstrate that, through tax arrears and unpaid dues to extra-budgetary funds, the energy sector substantially passes on the costs of the implicit transfers to the general fiscal accounts. This means that the subsidies eventually show up in the accumulation of public debt. Sometimes, this pass-through is explicit, as with the export tax breaks received by Gazprom until early 1996, or with continuous growth in real terms of Gazprom's arrears to the enlarged budget. Another avenue is ever re-emerging tax offsets, of which Gazprom is one of the major beneficiaries. Further, the energy monopolies, both Gazprom and its counterpart in electricity, RAO UES, have made a number of acquisitions by converting overdue receivables into equity in selected companies – a policy, which has significant monopoly economic costs for the country.[5]

The question of why the subsidies assume a noncash form is closely tied to the government's main macroeconomic objective over 1995-98, which was to lower inflation as soon as possible by fixing the exchange rate and controlling credit.

Hard Budget Constraints and Growth

Empirical results obtained by Fischer, Sahay and Vegh (1996) make a crucial link between stabilization and growth: "[...] inflation falls substantially [...] as fiscal deficits are brought under control. [...] after two years growth is positive. [...] reducing high inflation is a precondition for the revival of growth." This work, which clearly underpinned the Russian economic agenda between mid-1995 and the meltdown, views stabilization as a strictly macroeconomic phenomenon, with enterprise reform interpreted largely as privatization. However, the accumulated experience with transition since 1990 makes two points about hard budget constraints for enterprises: [6] (i) they are an indispensable microeconomic complement to macroeconomic stabilization, as documented here; (ii) they are necessary for the enterprise restructuring that supports the initial revival of growth, and for the credibility of reforms. [7] Later, the manner in which Russia pursued stabilization (not by cutting fiscal deficits) is discussed, while the rest of this section dwells on hard budget constraints.

[5] For Gazprom, ferrous metallurgy and petrochemicals have become main targets, while UES concentrates on penetrating non-ferrous metallurgy.
[6] This term was coined by Professor Janos Kornai. For the seminal article, see Kornai (1986).
[7] The earliest published evidence on the efficacy of hard budgets and competition for transition economies is contained in Pinto, Belka and Krajewski (1993). This result has been confirmed most recently by a 3000-firm survey conducted by EBRD and reported in Carlin, et al. (1999), and discussed in Chapter 7 of the EBRD Transition Report, 1999.

Poland, the most consistent growth performer in Central and Eastern Europe, resumed growing in 1992 when its "transformational recession" ended. [8] But the big boom in domestic investment came only in 1995, and foreign direct investment did not take off until 1996 – in the sixth year of growth. The initial growth spurt came from using existing assets more efficiently and from re-allocating these under the pressure of hard budget constraints and competition.[9] Although new start-ups, or *de novo* private companies, are given much of the credit for Poland's dynamism, empirical evidence shows that many of these start-ups acquired equipment and machinery from state enterprises struggling to adapt to a new set of relative prices and demand patterns.[10] The Polish experience shows that only after the direction of economic policies is credibly established – and the resumption of growth is a factor determining such credibility – do investors commit themselves in a big way.[11]

As best as one can reconstruct events in Poland, enterprise budgets hardened in the following sequence involving progressive elimination of: (i) government subsidies; (ii) soft bank loans; (iii) inter-enterprise arrears; (iv) tax arrears. Each of these funding sources became a new safety valve as the previous one was shut off. A somewhat ironic feature of the above sequence is that as subsidies get eliminated, a bulge in inter-enterprise arrears, i.e., nonpayments, develops; but this gets nipped in the bud and disappears spontaneously once it becomes clear that the government is not going to intervene through netting out exercises or bailouts. Creditor enterprises no longer have an incentive to run up receivables from firms whose payment capacity is suspect, as the government is not going to offer offsetting compensation.

From a macroeconomic point of view, growth in Poland resumed in 1992 when moderate inflation was achieved – before mass privatization, before large doses of new investment, and long before single-digit inflation was reached.[12] In 1992, the rate of inflation was 44 percent, and Poland took its time attaining single-digit inflation, which it did so only in 1998. However, this gradual drop in inflation did not hurt the credibility of macroeconomic policies because it was evident to the private sector that the political will to implement the necessary macro fiscal reforms and micro hard budget constraints existed.

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[8] For a discussion of transformational recession see Kornai (1994).
[9] See Buckberg and Pinto (1997) for a discussion of Poland's growth dynamics.
[10] See Belka et al. (1994).
[11] Of course, growth also came from new service sectors, such as finance, media, telecoms, etc., and from small businesses. But the point is that the way existing state firms are treated crucially determines the credibility of the investment climate. Poland refused to bail out even icons of Solidarity such as the Gdansk shipyard and the Ursus tractor factory. Entry of new, and expansion of efficient, firms is crucially linked to exit of unviable firms.
[12] On moderate inflation and growth, see Fischer et al. (1996) for the transition countries, and Bruno and Easterly (1995) for market economies.

Public Debt Dynamics and Nonpayments

The standard differential equation for public debt can be written as follows:

$$\dot{d} = pd - ndfs + (r - g)\bullet d, \tag{1}$$

where d is the ratio of public debt to GDP, $\dot{d}$ is its time derivative; pd is the primary deficit/GDP ratio, the primary deficit being defined as non-interest expenditure minus revenues; ndfs is the ratio of non-debt financing sources to GDP, such as seigniorage and privatization revenues; r is the real interest rate on public debt; and g is the growth rate of real GDP. There is no steady state solution for d, and further it will be on an explosive path, so long $\dot{d}$ is positive, for which a sufficient condition is that both (pd-ndfs) be positive and r>g. This was the case for Russia in the 18 months preceding the meltdown, a situation considerably exacerbated by nonpayments, as will be seen below.

The primary deficit, pd, and non-debt financing sources, ndfs, may be written as:

$$pd = NIE - t$$

$$ndfs = m\bullet\pi,$$

where NIE is non-interest expenditure, t is fiscal revenue, and $m\bullet\pi$ is the proceeds from the inflation tax (the ratio of base money to GDP, m, times the rate of inflation, π). We ignore privatization revenues, as these have generally been insignificant, or could be regarded as a constant.

The link with nonpayments may now be developed as follows. In keeping with its desire to stabilize rapidly, the government starts with an ex ante budget that looks reasonable in relation to inflation targets; but planned revenues fall short as the energy monopolies run tax arrears to compensate for the implicit subsidies they channel to manufacturing companies through arrears and NCS.[13] This is a fundamental link: the biggest implicit subsidy providers turn into the biggest tax delinquents. Finding itself with a persistent revenue shortfall, i.e., with an ex post pd that is higher, the government has the following choices: (i) print more money; (ii) run spending arrears; (iii) cut NIE; or (iv) borrow more. Given the desire to stabilize rapidly, we rule out (i).

[13] For expositional clarity, one can WLOG regard all revenues as coming from the energy monopolies alone.

On spending arrears, there are two choices: (a) arrears in relation to firms; and/or (b) delays in wage, pension and other "social" payments. Running arrears to firms is unlikely to be a net source of finance because firms will retaliate by incurring tax arrears. This also applies to the inflation erosion of stocks of budgetary and tax arrears, which will tend to offset each other. It is also likely that on a net basis, this source of financing could be negative as budgetary and tax arrears get offset, with firms effectively paying their taxes in kind at inflated prices. Arrears on social payments have high and visible political costs associated with them, and further, add to contingent claims on the government, which may have to be extinguished either by borrowing or monetization. This would tend to push up the real interest rate on new borrowing. Thus, arrears as a net source of financing does not look promising. However, the signaling impact is unambiguously negative. Spending arrears legitimize tax arrears and eventually lead to offsets that increase future tax arrears because paying taxes via offsets is cheaper than doing so in cash.[14]

This leaves only two options: cut NIE to offset the revenue shortfall; or borrow. If NIE cannot be reduced enough to offset the chronic revenue shortfalls, pd and public debt grow. Hence, the ultimate effect of the implicit subsidies is to push up public debt and r, the real interest rate:

r = r(d, real devaluation risk),

i.e., r goes up as default risk (measured by total debt burden to GDP, d) and real devaluation risk go up.[15] Lastly, g, the growth rate of real GDP, depends both upon r (negatively) and hard budget constraints (positively):

g = g(r, hard budgets).

Macro-Micro Links, And Meltdown

The macro policy goal starting in mid-1995 was to stabilize rapidly as a prelude to growth. The government attempted to achieve this by fixing the exchange rate and tightening credit even though fiscal reforms lagged behind. This led to expenditure arrears and tax offsets, and boosted public debt.

The micro policy goal was to maintain a social safety net by avoiding enterprise exit. The curtailment of explicit budgetary subsidies for enterprises during the initial years of reform was more than offset by the subsequent provision of implicit subsidies channeled largely through the energy

[14] This happens because offsets amount to in-kind tax payments at inflated prices or partial forgiveness as part of bargaining between government and tax debtors. See also Aitken (1999).
[15] r is a weighted average of the real interest rate on domestic debt and on foreign debt, the latter including the percentage change in the real exchange rate. See KPU (1999).

sector and lax tax enforcement.[16] The energy monopolies in turn passed the related costs on to the fiscal accounts, becoming the largest tax delinquents as well as the biggest participants in tax offsets. This led to the chronic shortfall in cash revenues witnessed over the 1995 - mid 1998 stabilization, estimated at 2.5 percent of GDP per year. The government had to borrow more, pushing up r. This caused liquidity problems for enterprises that pushed them further towards NCS, while increasing the need for implicit subsidies and stifling growth. This intensified the chronic shortfall in revenues, thereby making even pd a positive function of r, adding to the explosiveness of d, which reached default levels, precipitating a macroeconomic collapse.[17]

Macroeconomic policy and Nonpayments

The government attempted to stabilize by fixing the exchange rate, which was done in mid-1995, and controlling credit; but fiscal deficits were not commensurately reduced, so net new borrowing was large at the federal government level, as Table 2 shows. This table captures the single most striking feature of Russia's temporary stabilization, namely, while fiscal deficits strayed far from their targets, the **original** inflation targets negotiated with the IMF were largely adhered to.[18] Russia got embroiled in unpleasant monetarist arithmetic, replacing money printing with a public debt time-bomb.[19]

Table 2: Macroeconomic Performance Over 1995-1998

Year	12-Month Inflation (%)		Fiscal deficit/GDP (%) [a/]		Increase in Public Debt
	Original Program Target	Actual	Original Program Target	Actual	$ billion [e/]
1995 (SBA)	63	131	6.5	5.6	25
1996 (EFF96)	25	25	4.2 [b/]	7.9 [c/]	31
1997 (EFF96)	9	11	3.2 [b/]	7.3 [c/]	25
1998 (EFF96)	6	84	2.2 [b/]	5.9 [c/d/]	--

[a/]Deficit of the enlarged government on a commitments basis. [b/]Based on higher nominal GDP projections. [c/]Inclusive net change in government arrears. [d/]Excluding overdue interest on GKO/OFZ. [e/]Sum of domestic and foreign borrowing. Authors' estimates..

With taxes flagging and inadequate expenditure control, the federal government resorted to arrears and monetary surrogates in addition to borrowing. Various generations of offset instruments were devised to cancel mutual budgetary and tax arrears. These doubled from 10 percent of federal government revenues in 1995 to 20 percent or more in 1996 and 1997, as seen in Table 3. Together with monetary surrogates, offsets accounted for over 20 percent of federal government non-interest

[16] This argument applies more broadly, e.g., when oil companies are threatened with a cutoff in access to the oil export pipeline unless they continue supplying nonpaying domestic refineries.

[17] As noted in KPU (2000), the public debt to GDP ratio remained roughly constant over 1995-97 in spite of pd>0 and r>>g, because of large capital gains from real appreciation on the foreign currency component of public debt. However, the dynamics (including the real appreciation) were unsustainable, pushing the public debt / GDP ratio from 49 percent at the end of 1997 to 104 percent by end-1999, following the August 1998 meltdown.

[18] **NB:** The comparison is with the **original** program path negotiated in early 1996. Subsequently, both inflation and deficit targets were revised.

[19] Sargent and Wallace (1981). In retrospect, the desire to achieve single-digit inflation was pursued with all the zeal of a lexicographically ordered policy preference.

spending over 1995-97, setting a bad example for enterprises to follow, and giving them an incentive to deliberately run up tax arrears that could be settled with lower cost through offsets (which incorporated tax forgiveness through the use of inflated prices). This was a major factor legitimizing tax arrears, and contributing to the persistent shortfall of cash taxes over 1996-98.[20]

Table 3: Offsets in the Federal Budget on Cash Basis (billion of rubles)

Year	KNO	DMO	RMO	TF	Unidentified	Total offsets	Total revenues	Share of offsets in revenues, percent
1994	9					9.0	81.7	11.0
1995	21.8					21.8	210.6	10.4
1996	30.9	23.9			2.7	57.5	287.6	20.0
1997		62.0	24.5		2.1	88.6	371.2	23.9
1998			19.0	21.8		40.8	320.8	12.7

Source: MoF, State Tax Service, authors' estimates.

An emergency tax commission, the VChK, chaired by the Prime Minister, was established in October 1996 to combat tax evasion. It intensified its efforts towards the end of 1997, after the first shock from the Asian crisis, which coincided with a tighter stance by the IFIs towards Russia precisely on the tax collection question.[21] However, the VChK never made a serious dent on taxes and was allowed to lapse. This has been interpreted as weak political will; but the insights here suggest that the VChK was a non-starter because of a tacit political bargain: the biggest tax delinquents (oil, gas, electricity, railways) head the list of implicit subsidy providers.

The impact of the preceding macro policy stance on enterprises was huge. The real exchange rate had already appreciated by some 650 percent between the start of transition in 1992 and early 1994 ("first phase"). It then depreciated by about 15 percent till mid-1995, when coinciding with the start of stabilization symbolized by the fixing of the exchange rate through the corridor, it began appreciating again, by some 60 percent between mid-1995 and July 1997, when it peaked ("second phase"). While the first phase of real appreciation (1992-94) can be rationalized as equilibrium price-level adjustment (planning era prices and wages adjusting to world levels), the second phase coinciding with the 1995-97 disinflation hurt enterprises substantially. This can be inferred from the tremendous re-bound enterprises have been enjoying in the wake of the real devaluation associated with the meltdown: by end-1998, the real exchange rate had returned to its mid-1995 level, and enterprise finances and performance have substantially improved.[22]

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[20] The column headings in Table xx are acronyms of various offset instruments. The table has a remarkable feature: most of the off-diagonal elements are zero, because as soon as one type of offset was scrapped under pressure from the IFIs, a new one was developed, leading to a persistent pattern of mutation!

[21] A Fiscal Action Plan, also known as the Kudrin-Fischer plan, was formulated in November 1997 to bring the deficit under control. For the first time, expenditure control under the auspices of the federal treasury received serious attention, while the federal government committed to eliminating offsets by January 1, 1998.

[22] Ahrend (1999) contains an interesting analysis of the incentive effects of the real exchange rate. See also OECD (2000). It is also likely that with oil, gas and other commodity exports enabling a surplus on the trade balance, a much larger real

Real interest rates averaged a massive 53 percent based on the one-year GKO (treasury bill) from mid-1995 to mid-1997. No successful transition country, and indeed, no normally functioning market economy, has had to deal with such a prolonged spell of such high real interest rates. When growth resumed in Poland in 1992, the real interest rate on one-year government paper was close to zero, and the real exchange rate was kept in check after a phase of "equilibrium appreciation" through a devaluation 17 months after reforms began and the shift to a more flexible exchange rate regime a few months later.

The combination of high real interest rates and real appreciation from 1995- mid 1998 in Russia pushed enterprises towards nonpayments as they sought to borrow from each other, workers, the energy monopolies and the government; and necessitated ever higher implicit subsidies.

Subsidies to Enterprises and Debt Dynamics

Enterprises received and continue to receive subsidies from two sources: explicit, from various levels of the government budget; and implicit, from the budget and energy monopolies via the nonpayments system. Given the inherently opaque nature of this system, it is impossible to uncover the hidden subsidies exhaustively. We present rough, but strongly illustrative, orders of magnitude of these subsidies to the enterprise sector excluding energy companies, and thereby bring out the pernicious impact on the primary deficit and debt dynamics.

Annex 1 contains a detailed estimate of the explicit and implicit subsidies to the real sector from the enlarged budget (federal, regional and EBFs) and the two main energy monopolies, Gazprom and RAO UES. Important components of subsidy, such as ad hoc tax exemptions, are not included because of lack of information. We note first that the explicit subsidies are large, ranging between 8 and 10 percent of GDP, except for 1998, when they shrank to 6 percent. Second, implicit subsidies are also exceptionally high. These have *four components* - - (i) the net increase in tax and EBF payment arrears (excluding penalties for late payment) and (ii) in arrears for energy payments; (iii) tax offsets at off-market prices (we conservatively assume a price premium of 30 percent, implying a 23 percent savings on the tax bill paid in kind), and (iv) NCS for energy (also at a premium of 30 percent) – - and *two sources*: the budget, and the energy sector, restricted in our study to Gazprom and RAO UES and their affiliates.

A simple decomposition of implicit subsidies for 1996 and 1997 (the two years for which more complete data are available, and during which most of the disinflation occurred) is now made,

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appreciation occurred than would have otherwise been possible. No wonder then that Russia's BOP vulnerability increased sharply as oil prices began falling in 1997.

based on the following accounting. Let TO and TA denote implicit subsidies via tax offsets and tax arrears (including to EBFs), respectively; and ISE, implicit energy subsidies, i.e., subsidies to the real sector provided by energy companies. Then:

Implicit subsidies to enterprises excluding energy companies = TO + TA + $(1-\alpha)$ • ISE,

where α is the fraction of the implicit subsidies channeled through the energy companies, but whose cost is ultimately born by the fiscal accounts when the energy companies do not pay their own taxes and EBF contributions in full, and engage in offsets (which are incorporated in TO and TA). Table 4 below summarizes implicit subsidies based on Annex Table 1:

Table 4 : Implicit Subsidies, 1996-97
(% of GDP)

Year	1996	1997
TO	2.2	2.7
TA	5.5	4.7
	7.7	7.4
ISE	4.2	3.2

Using the above formula, implicit subsidies to the non-energy enterprise sector were 7.7-11.9 percent of GDP in 1996 and 7.4-10.6 percent of GDP in 1997.

Effect on Public Debt

The impact of hidden subsidies on the federal government's debt can be gauged from the change in tax arrears to the federal government plus payment arrears to the EBFs (which become the contingent and then actual liabilities of the federal government).[23] This would capture subsidies stemming from weak tax enforcement, as well as the pass-through of the implicit subsidy costs incurred by the energy monopolies. This adds up to 4.9 percent of GDP in 1996, and 3.6 percent of GDP in 1997. Interestingly, net new borrowing at the federal level as a share of GDP was 7.5 percent in 1996, and 5.6 percent in 1997. In these two years, we recall from Table xx that the fiscal deficit of the enlarged government exceeded the original target under the IMF program by 3.7 and 4.1 percent of GDP respectively. Table 5 shows the deficit of the enlarged government when adjusted for implicit subsidies.

Table 5: Adjusted Budget Deficit and State Debt, 1996-1998

	1996	1997	1998
Adjusted enlarged budget deficit(+)/GDP (percent)[a/]	0.3	-0.1	-4.5
Net new public borrowing/GDP (percent)[b/]	7.6	5.7	18.1

[a/] Implicit subsidies deducted. [b/] Federal government borrowing only.
Source: Authors' estimates.

Energy Monopolies

The pricing, taxation and regulation of Russia's vast energy monopolies is not simply a fiscal issue, it is an issue of economy-wide import. Hence, transparency is vital, but this is damaged by the nonpayments system in costly ways, as we shall see below. As noted in the previous section, enterprises received significant subsidies from the Gazprom, the gas monopoly, and RAO UES, its counterpart in electricity.

Gazprom

The typical composition of Gazprom's cash sales is illustrated by its results for 1997.

Table 6: Gazprom Sales and Cash Collection Ratio, 1997

Market	Deliveries (billion cm)	Price ($/1000 cm)	Sales ($ million)	Cash receipts ($ million)	Cash rec./Sales %
Europe	121	88.5	10,707	10,707	100
CIS	64	76.8	4,937	2,855	58
Domestic	301	47	11,536	1,730	15
Total	**486**		**27,180**	**15,292**	**56**

Source: Company data, Customs Committee, Brunswick Warburg, Morgan-Stanley Dean Witter Research, staff calculations

From the table, one can calculate that even though domestic shipments exceeded 60 percent of total gas deliveries in 1997, they accounted for only 42 percent of sales, and a mere 11 percent of total cash receipts. Table 7 shows that the average annual implicit subsidy passed on by Gazprom to domestic customers as a result of unrecoverable arrears and inflated NCS prices was about 1.5 percent of GDP per year over 1993-1997, a cumulative total of $26.2 billion.[24] Electric power utilities account for approximately 50 percent of Gazprom's overdue receivables, followed by chemical industry – 7 percent, and ferrous metallurgy – 5 percent.

[23] We do not include tax offsets as these do not have a direct debt impact (only through pre-emptive tax arrears), although they constitute a subsidy and adversely affect the quality of public spending.
[24] Pinto, Drebentsov and Morozov (2000). Note that with regulated gas and electricity prices, the energy monopolies cannot in turn inflate their prices for in-kind settlements. Note further that gas prices in Russia are a fraction of those in central Europe, where western prices apply.

Table 7: Domestic Implicit Subsidy Provided by Gazprom

	Via arrears ($ billion)	Via barter ($ billion)	Total as % of GDP
1993	1.4	1.4	1.4
1994	1.6	1.7	1.3
1995	3.4	3.7	1.8
1996	3.6	3.7	1.8
1997	3.3	3.5	1.6
Total	**12.7**	**13.5**	

Source: staff calculations

Power Utilities - RAO UES (UES)

Like Gazprom, the electricity sector is heavily involved in the nonpayments web, and serves as a major channel for large implicit subsidies to domestic industries. Table 8 shows that the electricity generation sector is also plagued by low collection rates and by low cash collections, i.e., by both arrears and NCS. These phenomena are unique to FSU countries, as a detailed multi-country World Bank study of the energy sector shows.[25] The problem is virtually absent in the transition countries of central Europe and has been largely solved in the Baltic Republics.

Table 8: Composition of Power Utilities Sales by Means of Payment*

	1996	1997
Sales	**100**	**100**
Cash & liquid equivalent	20	20
Bank bills	11	6
Offsets and barter	49	62
Unpaid arrears	20	12

** Including intra-industry transactions*

Source: UES, MFK Renaissance, Brunswick Warburg

Table 9 presents our estimate of the implicit subsidy flow from the electricity generation sector. According to it, the average annual net subsidy extended by power utilities to other sectors amounted to 2.3 percent of GDP per year over 1993-1997, a cumulative total of $36.8 billion.[26] Consequently, the energy sector as a whole has been providing economy with an annual implicit subsidy equal to 4 percent of GDP – a hefty $63 billion over the five years, 1993-1997.

[25] World Bank (1999).
[26] Net power utilities' subsidy excludes share of gross subsidy coming from Gazprom.

Table 3.5: Domestic Implicit Subsidy by the Electricity Generation Sector

	Via arrears ($ billion)	Via barter ($ billion)	Total as % of GDP
1993	3.0	2.0	2.5
1994	3.9	2.8	2.6
1995	3.7	4.8	2.2
1996	3.5	5.9	2.4
1997	0.5	6.7	1.6
Total	14.6	22.2	

Source: staff calculations

Gazprom and RAO UES – Policy Issues

The first serious problem is that the implicit subsidies transmitted via Gazprom cloud its "true" taxation rate, thereby strengthening its bargaining position in relation to the government. Thus, Gray (1998, Appendix 3) argues that Gazprom's domestic tax compliance is only 40 percent, so that it is under taxed. Applying this compliance rate to the gas excise, VAT, Road Fund and Social Fund mandatory contributions, the average tax rate would equal 17 percent of total sales.[27] But the situation changes dramatically when implicit subsidies are included. Taking arrears to Gazprom at 30 percent of sales, NCS share at 55 percent with a mark-up of 30 percent, and cash sales at 15 percent, and noting that the marginal implicit tax rate on arrears is 100 percent, and on NCS sales 23 percent, the effective tax rate works out to be:

$$0.3(1 + 0.17) + 0.55(0.23 + 0.17) + 0.15 \times 0.17 = 0.597, \text{ or}$$

60 percent, much higher than assumed by Gray. The effective rate of 60 percent consists of an explicit rate of 17 percent and an implicit rate of 43 percent, the latter flowing from arrears and the NCS subsidy.[28] This rate is much higher than the 42.6 percent statutory rate (see footnote 27). Of course, the question of whether the statutory rate is high enough arises; but the implicit taxes cloud the issue. Therefore, eliminating nonpayments is a pre-condition for regularizing the taxation of Gazprom.

Second, the taxation situation becomes even more murky when one considers that Gazprom manages to transmit a substantial, but unknown part, of the implicit subsidy to the public exchequer. Client arrears have been more than offset by Gazprom's own arrears to the budget, and, increasingly, extra-budgetary funds. Federal and regional tax-offsets, which typically involve some tax

[27] The statutory gas excise rate is 30 percent of producer price, which translates into 23.1 percent of sales. The same applies to other turnover taxes, translating VAT of 20 percent into 16.6 percent of sales, and 3 percent of Road and Social Fund contributions into 2.9 percent, giving a total statutory rate of 42.6 percent. Assuming 40 percent compliance, we end up with a 17 percent explicit rate (total tax actually paid/total sales including arrears).

[28] The assumed mark-up of 30 percent on NCS is probably a minimum, as Gazprom's offer of 30 percent cash discounts has not met with much response.

forgiveness, have also absorbed part of Gazprom's burden. Further, between 1993 and 1995, Gazprom was able to recover an additional 0.5 percent of GDP per year as a result of tax privileges granted by the government on gas export sales. The electricity monopoly has negligible hard currency exports, and has never enjoyed tax privileges similar to Gazprom.[29] As a result, the only way it can offset implicit subsidies is by running arrears to the government and to its fuel suppliers, including importantly, Gazprom, which alone accounts for 30 percent of power utilities' payables. In spite of this, the sector was unable to pass on the burden of the implicit subsidy from arrears onto the government prior to 1997. In spite of large tax offsets run by the government for the electricity generation sector on an annual basis, power utilities had positive net receivables prior to 1997.

The costs do not end here. Woodruff (1998) argues that when Gazprom settles sales with NCS, it is in effect engaging in the same sort of discriminatory pricing any monopolist would, in this case, charging domestic customers less than foreigners; and further, given low marginal costs, this is justified on commercial and economic grounds. However, Gazprom's price discrimination is not without cost: (i) it has multiple domestic prices, and by charging unviable domestic firms lower prices than more efficient ones, the expansion of more efficient firms and economic growth get impeded;[30] and (ii) Gazprom makes up for charging lower prices by converting nonpayments into equity in targeted firms and industries, thereby (as noted earlier) creating monopolies in other branches of industry. In other words, there are significant negative externalities (in terms of foregone growth and additional monopolistic behavior) and fiscal costs associated with the subsidies transmitted via the energy monopolies.

Why do the electricity companies tolerate nonpayments? In addition to the inability to disconnect customers because of legal ambiguities in the civil code and political pressure (see World Bank (1999) and Pinto, Drebentsov and Morozov (2000)), the electricity companies' central role in many NCS schemes makes them vulnerable to influence by numerous interest groups, who profiteer on NCS intermediation. According to the Ministry of Interior, NCS with power utilities serves as a focal point for Mafia money laundering, and provides huge potential for corruption in the form of side payments to managers and bribes to public servants. Finally, NCS creates strong incentives for power utilities managers to get involved in profiteering and bribes.[31] Therefore, NCS and arrears represent a soft budget constraint that also enables various interest groups, including power utility managers, to enrich themselves in an atmosphere of tight liquidity constraints. This helps the perpetuate the system. World Bank (1999) reports instances where Energo managers refused cash payments because the resulting transparency ruled out side payments.

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[29] Interestingly, beginning last year UES has embarked on an active export promotion campaign, so far resulting in agreements to boost electricity sales to Germany, Japan and China.

[30] McKinsey Global Institute (1999) describes this as "unequal competition", and notes that it is endemic in the Russian economy.

[31] The Bank energy sector study points out that barter intermediaries are often controlled by the managers of Energos, enabling them to skim off profits by inflating prices on the inputs side.

This means that an unknown fraction of the subsidy targeted at ailing enterprises ends up in pockets of managers, corrupt public officials and the Mafia. The funds are mostly taken offshore, either draining the resource base of this economy, or coming back under the guise of off-shore investment to legalize ownership.

Given their central position in the nonpayments web and significant government ownership -- 35 percent of Gazprom, 52.5 percent of RAO UES -- Gazprom and RAO UES are obvious instruments for the government to dismantle nonpayments. A key strategy being used is to insist on a time table for increasing cash collections by the energy monopolies. The analysis here shows that this will work only if the EMs are permitted to disconnect nonpayers, which is now legally ambiguous under the existing Russian Civil Code; and if the government and all budget-funded entities make their own energy payments on time and in cash.[32] The importance of a credible disconnection policy is shown by two remarkable statistics: first, the railways have a much higher share of cash sales than either gas or electricity because they are not legally obliged to serve nonpaying civilian clients; second, casual observation shows that nuclear power stations have even lower cash collection ratios that conventional power stations. The reason: unlike conventional power stations, nuclear power stations cannot reduce the voltage without risking a crisis with the reactor. Thus, their disconnection threat is even less credible.

Enterprise Behavior and NCS[33]

According to the analytical framework and macro-micro policy links presented earlier: (i) nonpayments (arrears and NCS) by enterprises would increase with high real interest rates and the real appreciation of the ruble (as the trends in Table 1 showed); (ii) there would be a rising need for enterprise bailouts and subsidies as part of implicit social protection policy (Tables 4 and A-1); and (iii), public debt would grow to finance the subsidies, a tendency reinforced by (a) the low inflation target and (b) attempts by the energy monopolies to pass on the costs of the subsidies they transmit by becoming "tax delinquents" (Tables 2 and 5). A macroeconomic crash would eventually result. This can be summed up as follows:

Enterprise Nonpayments = f (macroeconomic stringency, micro soft budgets).

In keeping with the above formalism and the systemic view of nonpayments presented here, enterprise nonpayments has abated after the August 1998 meltdown. This is largely due to the

[32] See The World Bank (1999) and Pinto, Drebentsov and Morozov (2000).
[33] For a historical, evolutionary account of barter and other NCS in Russia, see Woodruff (1999). For an account of how nonpayments over 1995-98 differs qualitatively and quantitatively from that in the Soviet era, see OECD (2000). See also Ledeneva and Seabright (1998).

"relaxation" in macro stringency as a result of the real devaluation, which has led to an improvement in enterprise liquidity.[34] Further, the government has not been able to borrow commercially, and has reaffirmed its desire to stay the course (see Slay (1999) for an account of the government's behavior post-meltdown – hyperinflation was avoided but although there has been no reversal, further implementation of reform has been on hold). No new net government borrowing and greater pressure on the energy monopolies to pay taxes means a reduction in the ability to finance implicit subsidies. This push factor, combined with the pull of a large and sustained real devaluation, has lowered NCS use, consistent with the analytical framework presented in this paper.[35]

However, the nonpayments system is not about to disband itself spontaneously. Thus, while surveys by the Russian Economic Barometer indicate that NCS as a share of sales in medium-sized and small enterprises has come down from 50 percent, it has stabilized at 35 percent for the last three months of 1999.[36] Similarly, arrears as a share of GDP have fallen at end-1999, but this is at least partly, if not substantially, due to inflation erosion. Likewise, while Gazprom and RAO UES have increased the share of cash in their sales, the level achieved as of the end of 1999 is still low by central European standards -- 33 percent for Gazprom, 39 percent for RAO UES. At the same time, there has been no perceptible change in other factors that perpetuate nonpayments. One important example is the politics of tax sharing between the subnational and federal governments, which is such that the former may well encourage noncash tax payments (part of NCS) to retain more taxes at the local level.[37] Another critical factor (discussed next) is the personal enrichment enabled by a new form of industrial organization spawned by nonpayments. Thus, the core of the problem involving the "government - energy monopolies – enterprises" nexus remains.

The "New" Industrial Organization[38]

An opaque, untargeted system of subsidies such as the one embedded in Russia's nonpayments system is a natural recipe for the creation of alliances aimed at personal enrichment. Broadly speaking, these alliances involve the managers of subsidy receivers, subsidy providers and government officials. They collude to siphon out the implicit subsidies essentially by creating

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[34] See Ahrend (1999) for the striking impact of the real devaluation. OECD (2000) discusses this and other factors that have improved enterprise finances.

[35] Other explanations for high NCS use by enterprises have focused on tax evasion (Hendley, Ickes and Ryterman (1998) – HIR), a banking system geared to tax collection (HIR, see also Tompson (1997)) and the inability to lower prices because of tax rules combined with excessive depreciation charges stemming from inflation (Karpov (1997), Tompson (1999), Woodruff (1998)). Commander and Mumssen (1998) highlight, as a primary factor, the liquidity squeeze and crowding out resulting from public borrowing and high treasury bill yields. Commander and Mumssen (1998, Table 4.2), and Aukutsionek (1998) present evidence casting doubt on tax evasion as a primary motive for NCS. For a detailed discussion, see Pinto, Drebentsov and Morozov (2000). See also Volgin (undated), and Buckberg and Pinto (1997).

[36] In a seminar held on January 28, 2000, to discuss Pinto, Drebentsov and Morozov (2000), Petr Karpov, author of Karpov (1997), affirmed that the nonpayments problem has not diminished significantly in the largest enterprises.

[37] See World Bank (1999), Kourliandskaya (1999), Treisman (1999), Shleifer and Treisman (1999), Chapter VI., and OECD (2000).

[38] Numerous case studies illustrating the points made here are contained in Annex 3, Pinto, Drebentsov and Morozov (2000), based on a background paper by Pavel Kuznetsov.

intermediaries that benefit from commissions in arranging NCS, and which, by purchasing inputs or concluding sales at arbitrary prices, shift profits to the intermediary. The regional energy companies are considered to be particularly adept at this (World Bank (1999), Pinto, Drebentsov and Morozov (2000)). Further, tax offsets and procurement that favors certain companies also provide opportunities to cash-rich companies to pay taxes much more cheaply in kind. Such alliances have been responsible for the spread and perpetuation of the nonpayments system following the macroeconomic shock.

To complicate the situation, government's tolerance towards tax offsets – one of the major channels for transmitting implicit subsidy from public accounts to manager's pocket – stimulates enterprises to accumulate arrears in anticipation of subsequent offset operations. Moreover, some evidence suggests that, while showing accumulation of inter-enterprise arrears on their books, enterprises settle their transactions offshore.[39] This further fuels spread of financial intermediaries, with an increasing number established offshore. Offshore intermediaries, belonging to Russian financial-industrial groups (FIGs – a phenomenon unique to Russia and the FSU among the European transition countries), have become real accounting units/treasuries of enterprises, providing the latter with necessary cash component of working capital, and rescuing them in case of hostile actions by the tax authorities. This has contributed to capital flight, which has reached substantial levels. Moreover, being built on relative scarcity of cash and simultaneously providing occasion for huge personal gains, NCS has attracted the Mafia as a natural beneficiary for laundering cash earned in the shadow. As a result, according to high ranking Ministry of Interior officers specializing in combating organized economic crime, the mob is getting increasingly involved in the every day business of Russian enterprises.

Another side effect of wide-spread NCS is proliferation of vertically integrated conglomerates impeding competition and new entrants. Barter schemes, including multi-stage ones intermediated by unregulated promissory notes, tend to embrace all stages of production cycle, facilitating informal vertical integration within FIGs. Customers get firmly attached to existing suppliers (including through managerial collusion in subsidy redistribution), and new entrants are not welcome. Moreover, pricing policy of subsidized enterprises undercuts any potential entrant not belonging to an established NCS chain.[40] In fact, given that markets thick in NCS are by origin non-competitive, pricing (not just in nominal terms, but in relative terms, too) becomes highly discretionary. In many instances, prices do not show any definite pattern, and hence the system of market signals corrodes.[41]

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[39] Bureau of Economic Analysis (1997).

[40] Note, that while selling to the government and energy monopolies -- vehicles for implicit subsidization – at inflated prices, Russian enterprises sell at much lower cash prices on the market.

[41] This gives rise to different interpretations of NCS prices, with some authors claiming that bartered goods are overpriced, while others point at reasons for under pricing NCS relative to the cash market. We believe both arguments are correct depending upon circumstances and purpose of a given transaction. In general, while paying for energy or making tax payments via NCS, inflated prices are the norm.

Perhaps even more importantly, corruption fueled by huge gains earned on NCS schemes and implicit subsidy redistribution gets public servants glued into the same web of collusion, further promoting insider deals and an anti-competitive environment. Thus, corruption and "crony capitalism" have become typical of the new industrial organization flourishing on NCS, obstructing efficient resource allocation and growth.

Conclusions

Russia's 1995 – mid 1998 stabilization did not lead to widely-anticipated growth because low inflation was achieved by fixing the exchange rate, tightening credit, public borrowing and resorting to money surrogates, arrears and various types of tax offsets in financing public spending – not by cutting fiscal deficits and hardening enterprise budgets.[42] As a result, the low inflation did not last because public debt was placed on an unstable trajectory. While there is a tendency to attribute the August 1998 meltdown to a terms of trade shock (falling oil prices) combined with a global repricing of risk flowing from the SE Asian financial crisis of 1997-98 (Slay (1999)), the analysis presented here shows that these might have exacerbated the situation, but were not a fundamental cause. The fundamental cause has been the persistence of soft budget constraints in the form of nonpayments, which stifled enterprise restructuring and growth, and eventually jeopardized stabilization. To make matters worse, social protection via subsidies embedded in nonpayments may also have been thwarted owing to the "new" industrial organization that siphons out the subsidies and enables the personal enrichment of managers and colluding officials.

The incentives embedded in nonpayments and the personal enrichment enabled have also had a deleterious impact on the development of vital institutions. Thus, the vested interests of "authorized banks", which made vast sums of money by serving as fiscal agents, probably delayed the creation of a strong federal treasury, thereby weakening expenditure control.[43] In addition, the powerful banking lobby did not have much incentive to push for banking and related legislative reform needed to underpin lending to the real sector, delaying the creation of a normal banking system. Likewise, the tendency to tailor taxes to individual companies has compromised the formal tax system and the credibility of tax enforcement.[44]

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[42] For example, the *Economist Intelligence Unit* Country Report, 1 Q 1996, page 7, forecast GDP growth at 3 percent for 1996 and 4 percent for 1997. Eventual outcomes were –3.4 percent for 1996, +0.7 percent for 1997 and –4.9 percent for 1999.

[43] On how banks accumulated capital, which they then used to acquire prized assets during the loans-for-shares auction phase of privatization, see Black et al. (1999).

[44] Perhaps, the heart of the matter is Russia's vast endowment of oil, gas, and other natural resources and how to divide the spoils. Whether resource abundance is a boon or bane has long been debated in the economics literature, with resource-rich countries often lagging behind in growth and leading in corruption (see, for example, Sachs and Warner, 1995). Indeed, the energy sector has played a big role in Russia's nonpayments story, and Russia's rich natural resource endowment and how to divide the spoils might in future years be seen as *the* big difference between Russia and Central Europe, not 70 versus 40 years of socialism.

As noted above, while nonpayments has abated following the meltdown, the problem has not been solved, and its microeconomic core of soft budgets and a distorted industrial organization geared at personal enrichment (which defines present-day corporate governance in Russia) remain. Further, even though the economy grew by 3.2 percent in 1999, a rebound propelled by the devaluation and high oil prices, Russia is by no means on a sustainable growth path.[45] Moreover, it is extremely unlikely that sustainable growth in Russia will come *in the first instance* from large new investments by domestic or foreign companies. Rather, borrowing a leaf from Poland's book, initial growth will have to come from using existing economic assets and public finance resources better.[46] Budgetary inefficiency, asset stripping and the large subsidies embedded in nonpayments attest to the huge potential for increased efficiency in Russia. As in Poland, hard budgets would be needed to extract this potential, which in Russia, means dismantling nonpayments.

How to dismantle the system? A minimum set of measures centers around getting the government and the energy monopolies out of the nonpayments web to eliminate the hidden subsidies. Getting the government out essentially requires that the government make all its payments on time and in cash, eschewing arrears to set an example for enterprises, and completely eliminating offsets; while simultaneously insisting on cash tax payments. This needs to be combined with continued reform to bring the enlarged fiscal deficit under control; a switch to budget execution solely in cash form, and strictly avoiding further budgetary arrears; and tax reform, to enable the smooth switch to transparent cash-based taxation. While the switch to a cash basis for the budget might have a short-run inflationary impact, the medium-run fiscal consequences will be positive owing to the reduction in the size of subsidies and the enhanced credibility of tax enforcement in relation to the erstwhile implicit subsidy providers.[47]

Two conditions need to be fulfilled in order to get the energy monopolies out and move their pricing, taxation and regulation to a transparent and efficient basis: (i) the government must pay its bills on time and in cash; and (ii) the energy monopolies must be empowered to disconnect nonpayers. Only then will the government's insistence on cash tax payments by the energy monopolies themselves, and higher cash collections in their sales, be credible and enforceable.

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[45] The economy would have to grow by another 1.9 percent in 2000 just to revert to 1997 output levels. The fragility of the 1999 rebound is underlined by the IMF Press Statement issued on February 4, 2000: "...progress on the structural reform front has been limited ... . This remains a cause for concern since positive macroeconomic performance cannot be sustained without further significant structural reform needed to transform the Russian economy."

[46] Buckberg and Pinto (1997).

[47] We believe the long-run strategic benefits of dismantling nonpayments and completing the transition will more than outweigh any short-run inflation costs, which in any event can be minimized by the insistence on cash tax payment. For example, in Poland, the government was able to establish enterprise-level hard budget constraints and embark upon a program of fiscal reform while keeping inflation at moderate levels for a few years. This did not hurt the credibility of macroeconomic policies or growth because it was evident to the private sector that the necessary political will to implement the needed fiscal reforms existed.

The present time for dismantling nonpayments is exceptionally good: the real devaluation has given domestic industry a tremendous boost by discouraging imports, improving their liquidity and reducing the need for subsidies; the government can no longer postpone difficult decisions because access to commercial borrowing has dried up for the time being; and the lessons learned from the meltdown are still fresh. The most important of these is that attainment of low inflation will lead to sustainable growth only if it is accompanied by genuine enterprise restructuring and fiscal adjustment. Both require the elimination of nonpayments.

Shleifer and Treisman (1999) note the difficulty of implementing Russia's vast reforms agenda. This paper shows where to start the new millennium: dismantle nonpayments, replacing it if needed with a much smaller targeted system of explicit subsidies that will not only have a clear social impact, but also promote growth (by hardening budget constraints) and macroeconomic stability (by reducing the size of the subsidies).[48] Once growth and transparency revive, the investment climate will rapidly improve, facilitating medium-run institutional building. There is ground for optimism, based on using existing economic assets and public finance resources better.

[48] McKinsey Global Institute (1999) found that 75 percent of assets in firms surveyed by them as part of an analysis of 10 manufacturing and service sectors in Russia could be utilized in the existing markets with minimal upgrading, suggesting that the Polish strategy of first creating an environment where existing assets can be used better may be feasible.

Annex. Measurement of Explicit and Implicit Subsidies

This Annex presents the methodology for calculating explicit and implicit subsidies from the budget and the two energy monopolies: RAO Gazprom and RAO UES.

Explicit budget subsidies to enterprise sector (lines 1.i and 1.ii in the Table A-1 below) are taken directly from official MoF reports on federal and subnational budget execution. Since most of the budget expenditure category titled "national economy" represents input subsidies and investment grants, this category was taken as a proxy for explicit subsidies.

Gross budget lending to enterprise sector also includes a subsidy component to the extent of: (i) difference between market interest rate and discounted interest rate on budget lending; and (ii) amount of overdue loans. Measurement of this component is problematic, especially at the subnational level, due to lack of data. Hence, this has been excluded from our calculations.

We now discuss implicit subsidies.

In case of offsets, which are basically swaps between overdue receivables and payables, the subsidy component is represented by 30% overpricing of procured goods and services in case of the government.[49] Thus, for instance, entry "2.ii.a" in Table A-1 in 1996 is calculated as:

Implicit subsidy = Offsets amount*0.3/1.3=121.3*0.3/1.3 = Rb 28 bn.

Implicit subsidy as percent of GDP = Implicit subsidy / GDP = 28/2200*100 = 1.3%.

The net increase in tax arrears to each of budgetary level and EBFs (lines 2.i.b, 2.ii.b and 2.iii.b in Table A-1) is a difference between outstanding tax arrears at the end of period and of its beginning. Fines and penalties are excluded.

Subsidies embedded in non-equivalent barter[50] are evaluated under the assumption that prices of goods or other non-cash instrument used to pay RAO Gazprom and RAO UES in NCS transactions are inflated by 30%, while energy prices are not, because the latter are fixed by the energy commissions. Example: the entry "II.i.b" in Table A-1 in 1995 is calculated as:

Implicit subsidy = Amount of non-equivalent barter*0.3/1.3 = 62.0*0.3/1.3 = Rb 14.3 bn.

Implicit subsidy as percent of GDP = Implicit subsidy / GDP = 14.3/1585*100 = 0.9%.

The change in net inter-industry receivables of Gazprom (line II.i.a) is calculated as the increase of stock of overdue unpaid deliveries of gas to other industries after barter and before tax offset operations during each year of the period multiplied by the average annual domestic price of gas deliveries:[51]

Line II.i.a. Change in net inter-industry receivables of Gazprom = change in stock of overdue unpaid gas deliveries to other industries after barter and before tax offsets * average annual domestic gas price.

Change in net inter-industry receivables of Gazprom as percent of GDP = Change in net inter-industry receivables of Gazprom / GDP.

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[49] 30% is a sort of average overpricing reported in interviews with subnational authorities.
[50] Data on RAO Gazprom and RAO UES are taken from companies' financial reports.
[51] Gazprom's own overdue payables to other industries are negligible.

Similarly, the change in net inter-industry receivables of RAO UES (line II.ii.a) is calculated as the increase of stock of overdue unpaid deliveries of electricity to other industries after barter and before tax offset operations during each year of the period multiplied by the average annual domestic price of electricity deliveries. Mutual claims of Gazprom and RAO UES are netted out: in line "II.ii.a" the change in net inter-industry overdue receivables of RAO UES is adjusted (reduced) by the change in stock of overdue unpaid deliveries of gas to RAO UES after barter and offset operations multiplied by the average annual domestic price of gas deliveries:[52]

Line II.ii.a. Change in net inter-industry receivables of RAO UES = (change in stock of overdue unpaid electricity deliveries to other industries after barter and before tax offsets * average annual domestic electricity price) – (change in stock of overdue unpaid gas deliveries to RAO UES after barter and before tax offsets * average annual domestic gas price).

Change in net inter-industry receivables of RAO UES as percent of GDP = Change in net inter-industry receivables of RAO UES / GDP.

[52] RAO UES' own overdue payables to other industries (except Gazprom) are negligible.

Table A-1. Explicit and Implicit Subsidies Provided To Real Sector By Enlarged Budget and State Energy Monopolies, Percent of GDP

Subsidy types	1994	1995	1996	1997	1998
1.Explicit budget subsidies	*10.2*	*8.6*	*7.9*	*8.6*	*5.9*
i.Federal	3.0	2.5	1.7	1.8	0.7
ii.Subnational	7.2	6.1	6.2	6.8	5.2
iii.EBFs	n.a.	n.a.	n.a.	n.a.	n.a.
2.Implicit budget subsidies	*0.7*	*3.2*	*7.6*	*7.4*	*10.4*
i.Federal	0.7	1.9	2.1	2.2	3.0
a.Offsets	0.7	0.6	0.8	0.8	0.4
b.Net increase of tax arrears	n.a.	1.3	1.2	1.4	2.7
ii.Subnational	n.a.	1.2	1.9	3.0	3.1
a.Offsets	n.a.	n.a.	1.3	1.9	1.8
b.Net increase of tax arrears	n.a.	1.2	0.6	1.1	1.3
iii.EBFs	n.a.	n.a.	3.6	2.2	4.2
a.Offsets	n.a.	n.a.	n.a.	n.a.	n.a.
b.Net increase of tax arrears	n.a.	n.a.	3.6	2.2	4.2
I.Total budget subsidies	**10.9**	**11.8**	**15.5**	**16.0**	**16.3**
II.Total implicit subsidies from state monopolies	***3.9***	***4.0***	***4.2***	***3.2***	***n.a.***
i.Gazprom	1.3	1.8	1.8	1.6	n.a.
a.Change in net inter-industry receivables	0.6	0.9	0.9	0.8	n.a.
b.Subsidies embedded in non-equivalent barter	0.7	0.9	0.9	0.8	n.a.
ii.RAO UES	2.6	2.2	2.4	1.6	n.a.
a.Change in net inter-industry receivables	1.5	1.0	0.9	0.1	n.a.
b.Subsidies embedded in non-equivalent barter	1.1	1.2	1.5	1.5	n.a.
For reference:					
GDP, Rb bn	*610.7*	*1,585.0*	*2,200.0*	*2,585.0*	*2,684.0*

Notes. 1.Only available information is summed up in totals

2. Budgetary subsidies are calculated on a gross basis, since consistent information about budgetary arrears is not available (as of end-97, the *stock* of budgetary arrears was about Rb 50 bn, less than 2 percent of GDP).

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